

II. Remarks

Claims 1 and 4-20 were pending in this application. Claims 10, 12-17 and 20 have been withdrawn and claims 1, 4-9, 11, 18 and 19 were rejected. The present amendment amends claims 1, 4 and 18-19 to correct minor typographical errors and to more particularly point out and clarify Applicant's invention. No new matter has been added. After this amendment, claims 1 and 4-20 will be pending.

Reconsideration of the application in view of the above amendments and following remarks is respectfully requested.

Rejection(s) under 35 U.S.C. § 112

Claims 1, 4-9, 11 and 18-19 were rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicant regards as the invention. In view of the amendments and remarks contained herein, Applicant respectfully submits that the rejections of claims 1, 4-9, 11 and 18-19 are traversed.

Claim 1 was rejected because the Examiner posits that the claim's recitation of "to permit selection of the second energy level" renders the claim indefinite, because the retractor always uses the second energy level and only selects the first energy level if the initial force is below a predetermined force. This is however not the case. Claim 1 recites that "the control mechanism initially selects the first energy absorbing level upon locking of the retractor by the locking device and is responsive to relative movement between two components of the retractor caused by an initial

belt force less than a predetermined force to permit selection of the second energy absorbing level". The first energy absorbing level is the relatively high absorbing level, and the second absorbing level is the relatively low absorbing level. Claim 1 properly recites the embodiment disclosed in Applicant's application of "the torsion bar is provided with two sections, one section being very stiff and thus providing high energy absorbance, and the other part being relatively soft, and thus providing a relatively low energy absorbance...the locking element is provided which is releasable in response to...an electric signal from a crash sensor, the locking element initially serving to inhibit the effective operation of the soft section of the torsion bar". Applicant's application at paragraph [0045]. Another words, the locking element initially selects the stiff section but not the soft section of the torsion bar. Thus, the retractor does not always use the second energy level, but is rather initially in the first high energy absorbing level via the locking element's response to the crash signal. Accordingly, Applicant believes that the above recitation in claim 1 does not render the claim as indefinite and therefore, the rejection should be withdrawn.

Claim 4 has been amended to recite that the second part of the spindle moves relative to the first part when the initial belt force in excess of the predetermined force is applied to the second part of the spindle. This amendment was in response to the objection that "the second part of the spindle movable relative to the first part causing the relative movement" renders the claim indefinite, because it is not clear how and to which part, the relative movement between the first and second part of the spindle is causing the relative movement to. Office

Action at pages 2-3. Accordingly, Applicant believes that the amendment to claim 4 has cured the respective rejection.

Claim 18 has been amended to recite a seat belt retractor according to claim 4. This amendment was in response to the objection that the recitation of "any one of claim 4" renders the claim indefinite, because there is only one claim 4 being claimed. Accordingly, Applicant believes that the amendment to claim 18 has cured the respective rejection.

In view of the amendments and remarks discussed in the foregoing paragraphs, Applicant believes that the 35 U.S.C. § 112, second paragraph, rejections of claims 1, 4-9, 11 and 18-19 should be withdrawn.

Rejection(s) under 35 U.S.C. § 102

Claims 1, 4-9, 11, 18 and 19 were rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent 6,616,081 to Clute et al. ("Clute"). In view of the amendments and remarks contained herein, Applicant respectfully submits that the rejections of claims 1, 4-9, 11, 18 and 19 are traversed.

Applicant's invention is concerned with providing a seat belt retractor to prevent a seat occupant from reaching the dashboard in an accident situation. In particular, more energy is to be absorbed from a heavy person than a light person and/or from a person in a severe high speed accident than a person in a low speed accident. The seat belt retractor comprises a load limiter that provides a first relatively high energy absorption level and a second relatively low energy absorption level to permit the restricted paying out of the seat belt webbing. The load limiter is

in the form of a two section torsion bar having a stiff or wide diameter cross-section, and a soft or narrow diameter cross-section. A control mechanism is operable to select between the energy absorption levels in response to crash related signals. The control mechanism permits selection from the first energy level to the second energy level when the initial belt force is less than a predetermined force and further, inhibits the selection from the first energy level to the second energy level when the initial belt force is more than the predetermined force. Advantageously, the control mechanism directly inhibits the effective selection of the second low energy absorbing level via relative movement in the mechanical arrangement, without the generation and processing of any electric control signals, a very fast acting operation may be achieved at a relatively low cost for which more energy may be absorbed for example by a heavy person in an accident situation and/or a person in a severe high speed accident. Applicant's application at paragraphs [0004] and [0009]-[0010]. Accordingly, claim 1 recites that the control mechanism initially selects the first energy absorbing level upon locking of the retractor by the locking device and is responsive to relative movement between two components of the retractor caused by an initial belt force less than a predetermined force to permit selection of the second energy absorbing level, and further the control mechanism is responsive to the relative movement between the components of the retractor caused by an initial belt force in excess of the predetermined force to inhibit the effective selection of the second energy absorbing level, thereby maintaining the first energy absorbing level.

Chute discloses a belt retract 10 with a two energy absorbing element force limiting device in the form of a torsion bar 13 having a high force section 14 and a low force section 15. A switching device for switching from the higher force level section 14 to the lower force level section 15 is formed via pawls 21 that couple the belt spool 12 and a torque tube 18 such that when the pawls 21 are in the coupled position force flows from the spool 12 via the torque tube 18 to section 14 of the torsion bar 13. If the pawls 21 are disengaged from the torque tube 18 by the actuation of the switching device, the spool 12 can rotate relative to the torque tube 18, and now force flows to section 13 of the torsion bar 13. Chute at Col. 3, line 45-Col. 4, line 14. This belt force limitation created in the retractor cooperatively coordinated with the airbag located in the vehicle where “the point in time at which the switch takes place from the higher force level to the lower force level is very important.” In a first embodiment, Chute discloses that the switch from the higher force level to the lower force level is provide by a time switch after a pre-selected period of time has occurred. In a second embodiment, Chute discloses that the switch from the higher force level to the lower force level is provide by a device for determining the number of revolutions of the spool after a pre-selected threshold has been exceeded. *Id.* at Col. 2, line 53-Col. 3, line 8. That is, Chute’s switching device for the belt retract 10 is initially selected in the higher force level and (1) switches to select the lower force level after either a pre-selected time threshold or a pre-selected revolutions of the spool has been exceeded. Notably, Applicant’s control mechanism permits selection to the lower energy absorbing level when the initial belt force is less than a predetermined force, and not when either a pre-

selected time period or pre-selected revolutions of the spool have been exceeded. Moreover, Chute fails to disclose that (2) switching device inhibits switching from the higher force level to the lower force level when an initial belt force is in excess of the predetermined force, thereby maintaining the higher force level.

This is unlike Applicant's invention where the control mechanism is (1) responsive to relative movement between two components of the retractor caused by an initial belt force less than a predetermined force to permit selection of the second lower energy absorbing level, and further is (2) responsive to the relative movement between the components of the retractor caused by an initial belt force in excess of the predetermined force to inhibit the effective selection of the second lower energy absorbing level, thereby maintaining the first higher energy absorbing level. In that Chute lacks the noted elements of claim 1, the rejections based thereon should be withdrawn. Accordingly, Applicant believes that claim 1 and its dependent claims 4-9, 11 and 18-19 are in a condition for allowance.

Conclusion

In view of the above amendments and remarks, it is respectfully submitted that the present form of the claims are patentably distinguishable over the art of record and that this application is now in condition for allowance. Such action is requested.

Respectfully submitted,

Dated: January 13, 2010

/Daniel P. Dailey/
Daniel P. Dailey, Reg. No. 54,054
Attorney for Applicant(s)

BRINKS HOFER GILSON & LIONE
524 SOUTH MAIN STREET
SUITE 200
ANN ARBOR, MI 48104
(734) 302-6000